AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently Amended) A cell search method for a mobile station in a mobile communication system, the method being characterized by comprising:

a first step of despreading a received signal using a common spreading code common to all slots and detecting slot boundaries on the basis of a first average correlation coefficient;

a second step of despreading the signal on the basis of said slot boundaries detected at the first step, using different individual spreading codes for said respective slots, and detecting frame boundaries and a scramble code group on the basis of a second average correlation coefficient; and

a third step of descrambling a common pilot signal on the basis of said frame boundaries and scramble code group detected at the second step, and detecting a scramble code on the basis of a third average correlation coefficient;

wherein after said first, second, and third steps have been repeated n times (n>2), said first step on n+1 th time is executed to detect slot boundaries using a plurality of said first average correlation coefficients obtained by n th times of said first step.

2.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 1, characterized in that said second step comprises detecting frame boundaries and a scramble code group using a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected at said first step [].

3.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 1, characterized in that said third step comprises detecting a scramble code using a plurality of said third average correlation coefficients, each of

said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said second step [].

4.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 1, characterized in that said first step comprises calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

5.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 2, characterized in that said third step comprises detecting a scramble code using a plurality of said third average correlation coefficients , each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said second step [].

6.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 2, characterized in that said first step comprises calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

7.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 2, characterized in that said second step comprises calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected at said first step [], and detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

8.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 3, characterized in that said first step comprises

calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

9.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 3, characterized in that said third step comprises calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said second step [], and detecting said scramble codes using the seventh average correlation coefficient.

10.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 5, characterized in that said first step comprises calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

11.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 5, characterized in that said second step comprises calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected at said first step [], and detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

12.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 5, characterized in that said third step comprises calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said

second step [], and detecting said scramble codes using the seventh average correlation coefficient.

13.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 4, characterized in that a plurality of said first average correlation values are weighted.

14.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 4, characterized in that said fourth average correlation value is calculated by adding a value obtained by multiplying a plurality of said first average correlation values by a forgetting factor.

15.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 4, characterized in that said predetermined slots is adaptively changed according to a state of said mobile station.

16.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 13, characterized in that a value of said weighting is adaptively changed according to the state of said mobile station.

17.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 14, characterized in that a value of said forgetting factor is adaptively changed according to the state of said mobile station.

18.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 15, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

19.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 15, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

20.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 16, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

21.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 16, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

22.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 17, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

23.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 17, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

24.   (Currently Amended) A cell search method for a mobile station in a mobile communication system, the method being characterized by comprising:
        a first step of despreading a received signal using a common spreading code common to all slots and detecting slot boundaries on the basis of a first average correlation coefficient;
        a second step of despreading the signal on the basis of said slot boundaries detected at the first step, using different individual spreading codes for said respective slots, and detecting frame boundaries and a scramble code group on the basis of a second average correlation coefficient; and
        a third step of descrambling a common pilot signal on the basis of said frame boundaries and scramble code group detected at the second step, and detecting a scramble code on the basis of a third average correlation coefficient;
        wherein after said first, second, and third steps have been repeated n times (n≥2), said second step on n+1 th time is executed to detect a frame boundaries and a scramble code group []

using a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected at said first step [].

25. (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 24, characterized in that said third step comprises detecting a scramble code using a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said second step [].

26. (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 24, characterized in that said second step comprises calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected at said first step [], and detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

27. (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 25, characterized in that said second step comprises calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected at said first step [], and detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

28. (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 25, characterized in that said third step comprises calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said

second step [], and detecting said scramble codes using the seventh average correlation coefficient.

29.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 26, characterized in that a plurality of said second average correlation values are weighted.

30.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 26, characterized in that if said slot boundaries detected at said first step are equal, a value is added which is obtained by multiplying a sixth average correlation coefficient obtained by averaging a plurality of said second average correlation coefficients within a predetermined slots, by a forgetting factor, and if said slot boundaries detected at said first step are different, a result of the addition of said second average correlation coefficients is defined as said fifth average correlation coefficient.

31.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 26, characterized in that said predetermined slots is adaptively changed according to a state of said mobile station.

32.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 29, characterized in that a value of said weighting is adaptively changed according to the state of said mobile station.

33.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 30, characterized in that a value of said forgetting factor is adaptively changed according to the state of said mobile station.

34.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 31, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

35.   (Original) the cell search method for a mobile station in a mobile communication system according to Claim 31, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

36.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 32, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

37.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 32, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

38.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 33, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

39.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 33, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

40.   (Currently Amended) A cell search method for a mobile station in a mobile communication system, the method being characterized by comprising:

a first step of despreading a received signal using a common spreading code common to all slots and detecting slot boundaries on the basis of a first average correlation coefficient;

a second step of despreading the signal on the basis of said slot boundaries detected at the first step, using different individual spreading codes for said respective slots, and detecting frame boundaries and a scramble code group on the basis of a second average correlation coefficient; and

a third step of descrambling a common pilot signal on the basis of said frame boundaries and scramble code group detected at the second step, and detecting a scramble code on the basis of a third average correlation coefficient;

wherein after said first, second, and third steps have been repeated n times (n≥2), said third step on n+1 th time is executed to detect a scramble code [] using a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said second step [].

41.   (Currently Amended)The cell search method for a mobile station in a mobile communication system according to Claim 40, characterized in that said third step comprises calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected at said second step [], and detecting said scramble codes using the seventh average correlation coefficient.

42.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 41, characterized in that a plurality of said third average correlation values are weighted.

43.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 41, characterized in that if said frame boundaries and scramble code groups detected at said second step are respectively equal, a value can be added which is obtained by multiplying an eighth average correlation coefficient obtained by averaging a plurality of said third average correlation coefficients within a predetermined slots, by a forgetting factor, and if said frame boundaries and scramble code groups detected at said second step are respectively different, a result of the addition of said third average correlation coefficients is defined as said seventh average correlation coefficient.

44.   (Currently Amended) The cell search method for a mobile station in a mobile communication system according to Claim 41, characterized in that said predetermined slots is adaptively changed according to a state of said mobile station.

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45.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 42, characterized in that a value of said weighting is adaptively changed according to the state of said mobile station.

46.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 43, characterized in that a value of said forgetting factor is adaptively changed according to the state of said mobile station.

47.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 44, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

48.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 44, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

49.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 45, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

50.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 45, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

51.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 46, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

52.   (Original) The cell search method for a mobile station in a mobile communication system according to Claim 46, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

53.   (Currently Amended) A cell search apparatus for a mobile station in a mobile communication system, the apparatus being characterized by comprising:

a first detector for despreading a received signal using a common spreading code common to all slots and detecting slot boundaries on the basis of a first average correlation coefficient;

a second detector for despreading the signal on the basis of said slot boundaries detected at the first detector, using different individual spreading codes for said respective slots, and detecting frame boundaries and a scramble code group on the basis of a second average correlation coefficient; and

a third detector for descrambling a common pilot signal on the basis of said frame boundaries and scramble code group detected by the second detector, and detecting a scramble code on the basis of a third average correlation coefficient;

wherein said first detector comprises means for storing a plurality of said first average correlation <u>coefficients</u> obtained during a plurality of searches, [] and means for detecting slot boundaries using a plurality of said first average correlation coefficients.

54.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 53, characterized in that said second detector detects frame boundaries and a scramble code group using a plurality of said second average correlation coefficients, <u>each of said second average correlation coefficients having identical</u> [] said slot boundaries detected by said first detector [].

55.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 53, characterized in that said third detector detects a scramble code using a plurality of said third average correlation coefficients, <u>each of said third average correlation coefficients having identical</u> [] said frame boundaries and scramble code group detected by said second detector [].

56.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 53, characterized in that said first detector comprises

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means for calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and means for detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

57.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 54, characterized in that said third detector detects a scramble code using a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected by said second detector [].

58.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 54, characterized in that said first detector comprises means for calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and means for detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

59.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 54, characterized in that said second detector comprises means for calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected by said first detector[], and means for detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

60.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 55, characterized in that said first detector comprises means for calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and means for detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

61.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 55, characterized in that said third detector comprises means for calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients , each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected by said second detector [], and means for detecting said scramble codes using the seventh average correlation coefficient.

62.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 57, characterized in that said first detector comprises means for calculating a fourth average correlation coefficient by averaging a plurality of said first average correlation coefficients within a predetermined slots, and means for detecting said slot boundaries using a timing with which the fourth average correlation coefficient is largest.

63.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 57, characterized in that said second detector comprises means for calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected by said first detector [], and means for detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

64.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 57, characterized in that said third detector comprises means for calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected by said second detector[], and means for detecting said scramble codes using the seventh average correlation coefficient.

65.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 56, characterized in that a plurality of said first average correlation values are weighted.

66.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 56, characterized in that said fourth average correlation value is calculated by adding a value obtained by multiplying a plurality of said first average correlation values by a forgetting factor.

67.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 56, characterized in that said predetermined slots is adaptively changed according to a state of said mobile station.

68.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 65, characterized in that a value of said weighting is adaptively changed according to the state of said mobile station.

69.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 66, characterized in that a value of said forgetting factor is adaptively changed according to the state of said mobile station.

70.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 67, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

71.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 67, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

72.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 68, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

73.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 68, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

74.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 69, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

75.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 69, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

76.   (Currently Amended) A cell search apparatus for a mobile station in a mobile communication system, the apparatus being characterized by comprising:

a first detector for despreading a received signal using a common spreading code common to all slots and detecting slot boundaries on the basis of a first average correlation coefficient;

a second detector for despreading the signal on the basis of said slot boundaries detected by the first detector, using different individual spreading codes for said respective slots and detecting frame boundaries and a scramble code group on the basis of a second average correlation coefficient; and

a third detector for descrambling a common pilot signal on the basis of said frame boundaries and scramble code group detected by the second detector, and detecting a scramble code on the basis of a third average correlation coefficient;

wherein said second detector comprises means for storing a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected by said first detector [], and means for detecting frame

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boundaries and a scramble code group using a plurality of said second average correlation coefficients.

77.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 76, characterized in that said third detector comprises detecting a scramble code using a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code group detected by said second detector [].

78.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 76, characterized in that said second detector comprises means for calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected by said first detector[], and means for detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

79.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 77, characterized in that said second detector comprises means for calculating a fifth average correlation coefficient by averaging, within a predetermined slots, a plurality of said second average correlation coefficients, each of said second average correlation coefficients having identical [] said slot boundaries detected by said first detector[], and means for detecting said frame boundaries and scramble code group using a timing with which the fifth average correlation coefficient is largest.

80.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 77, characterized in that said third detector comprises means for calculating a seventh average correlation coefficient by averaging, within a predetermined slots, a plurality of said third average correlation coefficients, each of said third average correlation coefficients having identical [] said frame boundaries and scramble code

group detected by said second detector[], and means for detecting said scramble codes using the seventh average correlation coefficient.

81.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 78, characterized in that a plurality of said second average correlation values are weighted.

82.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 78, characterized in that if said slot boundaries detected by said first detector are equal, a value is added which is obtained by multiplying a sixth average correlation coefficient obtained by averaging a plurality of said second average correlation coefficients within a predetermined slots, by a forgetting factor, and if said slot boundaries detected by said first detector are different, a result of the addition of said second average correlation coefficients is defined as said fifth average correlation coefficient.

83.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 78, characterized in that said predetermined slots is adaptively changed according to a state of said mobile station.

84.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 81, characterized in that a value of said weighting is adaptively changed according to the state of said mobile station.

85.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 82, characterized in that a value of said forgetting factor is adaptively changed according to the state of said mobile station.

86.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 83, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

87.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 83, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

88.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 84, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

89.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 84, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

90.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 85, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

91.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 85, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

92.   (Currently Amended) A cell search apparatus for a mobile station in a mobile communication system, the apparatus being characterized by comprising:
    a first detector for despreading a received signal using a common spreading code common to all slots and detecting slot boundaries on the basis of a first average correlation coefficient;
    a second detector for despreading the signal on the basis of said slot boundaries detected by the first detector, using different individual spreading codes for said respective slots, and detecting frame boundaries and a scramble code group on the basis of a second average correlation coefficient; and

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a third detector for descrambling a common pilot signal on the basis of said frame

boundaries and scramble code group detected by the second detector, and detecting a scramble

code on the basis of a third average correlation coefficient;

wherein said third detector comprises means for storing a plurality of said third average

correlation coefficients, each of said third average correlation coefficients having identical [] said

frame boundaries and scramble code group detected by said second detector [], and means for

detecting a scramble code is detected using a plurality of said third average correlation

coefficients.

93.   (Currently Amended) The cell search apparatus for a mobile station in a mobile

communication system according to Claim 92, characterized in that said third detector comprises

means for calculating a seventh average correlation coefficient by averaging, within a

predetermined slots, a plurality of said third average correlation coefficients, each of said third

average correlation coefficients having identical [] said frame boundaries and scramble code

group detected by said second detector[], and means for detecting said scramble codes using the

seventh average correlation coefficient.

94.   (Original) The cell search apparatus for a mobile station in a mobile

communication system according to Claim 93, characterized in that a plurality of said third

average correlation values are weighted.

95.   (Currently Amended) The cell search apparatus for a mobile station in a mobile

communication system according to Claim 93, characterized in that if said frame boundaries and

scramble code groups detected by said second detector are respectively equal, a value can be

added which is obtained by multiplying an eighth average correlation coefficient obtained by

averaging a plurality of said third average correlation coefficients within a predetermined slots,

by a forgetting factor, and if said frame boundaries and scramble code groups detected by said

second detector are respectively different, a result of the addition of said third average

correlation coefficients is defined as said seventh average correlation coefficient.

96.   (Currently Amended) The cell search apparatus for a mobile station in a mobile communication system according to Claim 93, characterized in that said predetermined slots is adaptively changed according to a state of said mobile station.

97.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 94, characterized in that a value of said weighting is adaptively changed according to the state of said mobile station.

98.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 95, characterized in that a value of said forgetting factor is adaptively changed according to the state of said mobile station.

99.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 96, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

100.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 96, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

101.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 97, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

102.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 97, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.

103.   (Original) The cell search apparatus for a mobile station in a mobile communication system according to Claim 98, characterized in that the state of said mobile station is either a state immediately after power-on or a standby state or a communicating state.

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104.   (Original)The cell search apparatus for a mobile station in a mobile communication system according to Claim 98, characterized in that the state of said mobile station is set according to a movement speed of said mobile station in advance.